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**NASA CONTRACTOR  
REPORT**

**NASA CR-137674**

Copy Number 7

**Multivariate Analysis, Retrieval, and  
Storage System (MARS)**

**Vol. IV, Turbojet and Turbofan Data Base (By Engine)**

N76-10090

Unclas  
39392

**MAY 1975**

Developed under  
**CONTRACT No. NAS 2-7627**

D.S. HAGUE

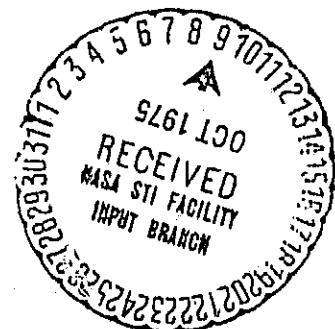
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(NASA-CR-137674) MULTIVARIATE ANALYSIS,  
RETRIEVAL, AND STORAGE SYSTEM (MARS).  
VOLUME 4: TURBOJET AND TURBOFAN DATA BASE  
(BY ENGINE) (Aerophysics Research Corp.,  
Bellevue, Wash.) 32 p HC \$3.75 CSCI 01C G3/05



**FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**  
**Ames Research Center, Moffett Field, California 94035**

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## PREFACE

This report was prepared under Task II of Contract NAS2-7627, "Further Flight Mechanics and Vehicle Synthesis Research", in the period from June 1973 to May 1974. Mr. Michael J. Tauber was the NASA technical monitor for this study which was done for the Advanced Concepts Branch of the Aeronautics Division of National Aeronautics and Space Administration's Ames Research Center. Mr. Donald S. Hague, of Aerophysics Research Corporation, served as project leader for this study.

In the aerospace vehicle preliminary design process the estimation of subsystem component weights and costs are based on formulae obtained by multivariate correlation-regression analyses of historical data. While many groupings of such formulae have been presented in the past, there exists a need for a rapid method of verifying and improving these formulae in specific applications. The Multivariable Data Analysis, Retrieval, and Storage System (MARS) fulfills this function. In the MARS system selected vehicle characteristics information has been stored in a computerized data base. The data can be displayed, retrieved, or analyzed for functional relationships by multivariable statistical correlation-regression analyses using any specified subset of characteristics and vehicles.

This report, Volume IV of the Task II documentation, consists of a partial listing of the MARS system engine data base. The information contained in this data base was originally supplied by Mr. J. Morris of NASA's Ames Research Center, Aeronautics Division.

# ENGINE IDENTIFICATION FILE

ENGINE IDENTIFICATION

BYPASS RATIO	=	0.75000
OVERALL COMPRESSOR PRESS. RATIO	=	21.800
OUTER COMPRESSOR PRESS. RATIO	=	7.4100
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	5.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	2.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	2.4300
TURBINE MAX. INLET TEMP. DEGREES F	=	2283.0
NOMINAL ENGINE LENGTH, INCHES	=	241.70
WEIGHT IN POUNDS	=	3985.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	14560.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.68600
ENGINE MASS FLOW S.L. STATIC, LPS/SEC	=	260.00
S.L. STATIC MAX. A/B THRUST	=	25100.
S.L. STATIC MAX. A/B S.F.C.	=	2.4500
NOMINAL ENGINE DIAMETER, INCHES	=	48.900
	=	0.11111E-08
INSTALLATION MONTH	=	7.0000
INSTALLATION YEAR	=	71.000
TOTAL NUMBER OF COMP. STAGES	=	16.000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

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ENGINE IDENTIFICATION FILE

ENGINE NUMBER

1

A/B THRUST TO NON A/B THRUST RATIO = 1.7250  
BYPASS RATIO + 1 = 1.7200  
THRUST/WEIGHT = 3.6537  
THRUST PER SQUARE INCH = 7.7527

# ENGINE IDENTIFICATION F52H

ENGINE NUMBER

BYPASS RATIO	=	0.59000
OVERALL COMPRESSOR PRESS. RATIO	=	10.000
OUTER COMPRESSOR PRESS. RATIO	=	2.9000
NO. OF STAGES, LOW PRESS.COMPRESSOR	=	6.0000
NO. OF STAGES, HIGH PRESS.COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS.TURBINE	=	2.0000
NO. OF STAGES, HIGHPRESS.TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.7000
TURBINE MAX. INLET TEMP. DEGREES F	=	1000.0
NOMINAL ENGINE LENGTH , INCHES	=	145.70
WEIGHT IN POUNDS	=	2000.0
S.L. STATIC MIL. POWER(30 MIN. MAX.)	=	10500.
S.L. S F C MIL. POWER(30 MIN. MAX.)	=	0.52000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	444.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	52.500
	=	0.111110-03
INSTALLATION MONTH	=	5.0000
INSTALLATION YEAR	=	60.000
TOTAL NUMBER OF COMP. STAGES	=	15.000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

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# ENGINE IDENTIFICATION 852H

ENGINE IDENTIFICATION

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.5900
THRUST/WEIGHT	=	4.2308
THRUST PER SQUARE INCH	=	7.5073



# ENGINE IDENTIFICATION ALDA

ENGINE MODEL =

3

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	7.2300
THRUST/WEIGHT	=	5.7417
THRUST PER SQUARE INCH	=	4.1553

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# ENGINE IDENTIFICATION ALIAS

ENGINE IDENTIFICATION 3

BYPASS RATIO	=	6.2500
OVERALL COMPRESSOR PRESS. RATIO	=	17.500
LOW COMPRESSOR PRESS. RATIO	=	1.5100
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	1.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	14.000
NO. OF STAGES, LOW PRESS. TURBINE	=	4.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.5100
TURBINE MAX. INLET TEMP. DEGREES F	=	2197.0
NOMINAL ENGINE LENGTH, INCHES	=	104.09
WEIGHT IN POUNDS	=	1421.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	8155.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.34900
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	239.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	50.000
	=	0.11111E-03
INSTALLATION MONTH	=	9.0000
INSTALLATION YEAR	=	69.000
TOTAL NUMBER OF COMP. STAGES	=	15.000
TOTAL NUMBER OF TURBINE STAGES	=	6.0000

# ENGINE IDENTIFICATION EC1030

ENGINE IDENTIFICATION

4

BYPASS RATIO	=	4.4000
OVERALL COMPRESSOR PRESS. RATIO	=	30.000
OUTER COMPRESSOR PRESS. RATIO	=	14.7200
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	2.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	14.000
NO. OF STAGES, LOW PRESS. TURBINE	=	4.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.5000
TURBINE MAX. INLET TEMP. DEGREES F	=	2470.0
NOMINAL ENGINE LENGTH, INCHES	=	160.00
WEIGHT IN POUNDS	=	9325.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	43225.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.33000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	1345.0
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	107.00
	=	0.11111111-08
INSTALLATION MONTH	=	9.0000
INSTALLATION YEAR	=	70.000
TOTAL NUMBER OF COMP. STAGES	=	17.000
TOTAL NUMBER OF TURBINE STAGES	=	6.0000

# ENGINE IDENTIFICATION LC1030

CAGE CODE =

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	5.4000
THRUST/WEIGHT	=	5.1522
THRUST PER SQUARE INCH	=	4.8070

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ENGINE IDENTIFICATION 747200

ENGINE PLANT =

5

BYPASS RATIO	=	5.1000
FANALL COMPRESSOR PRESS. RATIO	=	22.200
FILTER COMPRESSOR PRESS. RATIO	=	2.3000
NO. OF STAGES, LOW PRESS.COMPRESSOR	=	4.0000
NO. OF STAGES, HIGH PRESS.COMPRESSOR	=	11.000
NO. OF STAGES, LOW PRESS.TURBINE	=	4.0000
NO. OF STAGES, HIGHPRESS.TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.5000
TURBINE MAX. INLET TEMP. DEGREES F	=	2330.0
NOMINAL ENGINE LENGTH , INCHES	=	154.20
WEIGHT IN POUNDS	=	8770.0
S.L. STATIC MIL. POWER(30 MIN. MAX.)	=	39650.
S.L. S F C MIL. POWER(30 MIN. MAX.)	=	0.34600
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	1440.0
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	99.500
	=	0.111111-03
INSTALLATION MONTH	=	7.0000
INSTALLATION YEAR	=	71.000
TOTAL NUMBER OF COMP. STAGES	=	15.000
TOTAL NUMBER OF TURBINE STAGES	=	6.0000

ENGINE IDENTIFICATION 747200

ENCLOSURE

5

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	6.1000
THRUST/WEIGHT	=	4.5211
THRUST PER SQUARE INCH	=	5.5204

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ENGINE IDENTIFICATION 72720)

ENGINE NUMBER 7

6

BYPASS RATIO	=	1.0300
OVERALL COMPRESSOR PRESS. RATIO	=	10.900
OUTER COMPRESSOR PRESS. RATIO	=	4.2000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	6.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	3.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.6100
TURBINE MAX. INLET TEMP. DEGREES F	=	1720.0
NOMINAL ENGINE LENGTH, INCHES	=	123.67
WEIGHT IN POUNDS	=	3218.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	12600.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.57000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	218.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	45.060
	=	0.11111E-08
INSTALLATION MONTH	=	3.0000
INSTALLATION YEAR	=	68.000
TOTAL NUMBER OF COMP. STAGES	=	13.000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

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ENGINE IDENTIFICATION 727209

ENGINE NUMBER =

A/B THRUST TO NON A/B THRUST RATIO = 1.0000  
BYPASS RATIO + 1 = 2.0300  
THRUST/WEIGHT = 3.9155  
THRUST PER SQUARE INCH = 7.9013



# ENGINE IDENTIFICATION F100C

ENGINE NUMBER =

7

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	11.200
ENTER COMPRESSOR PRESS. RATIO	=	2.9000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	9.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	2.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	246.60
WEIGHT IN POUNDS	=	5160.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	10200.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.93500
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	105.00
S.L. STATIC MAX. A/B THRUST	=	16000.
S.L. STATIC MAX. A/B S.F.C.	=	2.1000
NOMINAL ENGINE DIAMETER, INCHES	=	40.100
	=	0.11111E-08
INSTALLATION MONTH	=	1.0000
INSTALLATION YEAR	=	57.000
TOTAL NUMBER OF COMP. STAGES	=	16.000
TOTAL NUMBER OF TURBINE STAGES	=	3.0000

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# ENGINE IDENTIFICATION F100C

ENGINE IDENTIFICATION

A/B THRUST TO NON A/B THRUST RATIO	=	1.5685
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	1.9767
THRUST PER SQUARE INCH	=	8.0755

# ENGINE IDENTIFICATION 11050F

ENGINE IDENTIFICATION

8

BYPASS RATIO	=	0.00000
OVERALL COMPRESSOR PRESS. RATIO	=	11.500
OUTER COMPRESSOR PRESS. RATIO	=	3.7500
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	9.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	2.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1610.0
NOMINAL ENGINE LENGTH, INCHES	=	255.00
WEIGHT IN POUNDS	=	5950.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	16100.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.92000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	252.00
S.L. STATIC MAX. A/P THRUST	=	24500.
S.L. STATIC MAX. A/B S.F.C.	=	2.1500
NOMINAL ENGINE DIAMETER, INCHES	=	43.000
	=	0.11111111-08
INSTALLATION MONTH	=	1.0000
INSTALLATION YEAR	=	59.000
TOTAL NUMBER OF COMP. STAGES	=	15.000
TOTAL NUMBER OF TURBINE STAGES	=	3.0000

# ENGINE IDENTIFICATION F105DF

ENCLOSURE

8

A/B THRUST TO NON A/B THRUST RATIO	=	1.5217
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.7059
THRUST PER SQUARE INCH	=	11.087

# ENGINE IDENTIFICATION FAC, D

24071. 1000000

9

BYPASS RATIO	=	0.00000
OVERALL COMPRESSOR PRESS. RATIO	=	12.900
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.00000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.00000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1775.0
NOMINAL ENGINE LENGTH, INCHES	=	208.45
WEIGHT IN POUNDS	=	2685.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	10900.
S.L. SFC MIL. POWER (30 MIN. MAX.)	=	0.96000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	145.00
S.L. STATIC MAX. A/E THRUST	=	17000.
S.L. STATIC MAX. A/E S.F.C.	=	1.9450
NOMINAL ENGINE DIAMETER, INCHES	=	35.180
	=	0.12111E-03
INSTALLATION MONTH	=	2.0000
INSTALLATION YEAR	=	63.000
TOTAL NUMBER OF COMP. STAGES	=	17.000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

# ENGINE IDENTIFICATION PAGE

ENGINE IDENTIFICATION

91

A/B THRUST TO NON A/B THRUST RATIO	=	1.5590
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.9579
THRUST PER SQUARE INCH	=	11.219

# ENGINE IDENTIFICATION FSA

1000 1000 1

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	7.0000
CUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	8.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1700.0
NOMINAL ENGINE LENGTH, INCHES	=	110.00
WEIGHT IN POUNDS	=	597.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	2720.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	1.0300
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	44.000
S.L. STATIC MAX. A/R THRUST	=	4090.0
S.L. STATIC MAX. A/R S.F.C.	=	2.2200
NOMINAL ENGINE DIAMETER, INCHES	=	20.400
	=	0.111111-08
INSTALLATION MONTH	=	7.0000
INSTALLATION YEAR	=	63.000
TOTAL NUMBER OF COMP. STAGES	=	8.0000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

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ENGINE IDENTIFICATION F5A

ENGINE NUMBER = 10

A/D THRUST TO NON A/D THRUST RATIO = 1.5000

BYPASS RATIO + 1 = 1.0000

THRUST/WEIGHT = 4.5561

THRUST PER SQUARE INCH = 8.3213

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# ENGINE IDENTIFICATION

2061 0400 11

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	11.300
CUTER COMPRESSOR PRESS. RATIO	=	2.9000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	9.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	2.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	157.70
WEIGHT IN POUNDS	=	2970.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	10500.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.79500
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	165.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	40.500
	=	0.1111E-03
INSTALLATION MONTH	=	12.000
INSTALLATION YEAR	=	55.000
TOTAL NUMBER OF COMP. STAGES	=	16.000
TOTAL NUMBER OF TURBINE STAGES	=	3.0000

# ENGINE IDENTIFICATION

ENGINE MODEL 14

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.6444
THRUST PER SQUARE INCH	=	8.1500

# ENGINE IDENTIFICATION C5A

ENGINE IDENTIFICATION

12

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	22.000
OUTER COMPRESSOR PRESS. RATIO	=	1.4000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	1.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	16.000
NO. OF STAGES, LOW PRESS. TURBINE	=	6.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.4000
TURBINE MAX. INLET TEMP. DEGREES F	=	2425.0
NOMINAL ENGINE LENGTH, INCHES	=	203.11
WEIGHT IN POUNDS	=	7136.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	40805.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.31500
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	1549.0
S.L. STATIC MAX. A/R THRUST	=	-1.0000
S.L. STATIC MAX. A/R S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	100.00
	=	0.11111E-08
INSTALLATION MONTH	=	9.0000
INSTALLATION YEAR	=	69.000
TOTAL NUMBER OF COMP. STAGES	=	17.500
TOTAL NUMBER OF TURBINE STAGES	=	8.0000

ENGINE IDENTIFICATION C5A

2421 12

A/E THRUST TO NON A/E THRUST RATIO = 1.0000

BYPASS RATIO + 1 = 9.0000

THRUST/WEIGHT = 5.6786

THRUST PER SQUARE INCH = 5.1954

# ENGINE IDENTIFICATION A7D

ENGINE ID# = 13

FYIA RATIO	=	0.76000
OVERALL COMPRESSOR PRESS. RATIO	=	21.000
OUTER COMPRESSOR PRESS. RATIO	=	2.4500
NO. OF STAGES, LOW PRESS.COMPRESSOR	=	5.0000
NO. OF STAGES, HIGH PRESS.COMPRESSOR	=	11.000
NO. OF STAGES, LOW PRESS.TURBINE	=	2.0000
NO. OF STAGES, HIGHPRESS.TURBINE	=	2.0000
FAN PRESSURE RATIO	=	2.4500
TURBINE MAX. INLET TEMP. DEGREES F	=	2157.0
NOMINAL ENGINE LENGTH , INCHES	=	114.17
WEIGHT IN POUNDS	=	2175.0
S.L. STATIC MIL. POWER(30 MIN. MAX.)	=	14500.
S.L. S F C MIL. POWER(30 MIN. MAX.)	=	0.64700
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	260.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	29.940
	=	0.11111E-06
INSTALLATION MONTH	=	10.000
INSTALLATION YEAR	=	68.000
TOTAL NUMBER OF COMP. STAGES	=	16.000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

ENGINE IDENTIFICATION A70

ENGINE POWER = 10

A/B THRUST TO NON A/B THRUST RATIO = 1.0000

BYPASS RATIO + 1 = 1.7600

THRUST/WEIGHT = 4.5669

THRUST PER SQUARE INCH = 11.809

BYPASS RATIO	=	6.2500
OVERALL COMPRESSOR PRESS. RATIO	=	11.200
OUTER COMPRESSOR PRESS. RATIO	=	1.6500
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	2.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	2.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.4000
TURBINE MAX. INLET TEMP. DEGREES F	=	2050.0
NOMINAL ENGINE LENGTH, INCHES	=	56.770
WEIGHT IN POUNDS	=	1095.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	6541.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.39700
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	260.00
S.L. STATIC MAX. A/P THRUST	=	-1.0000
S.L. STATIC MAX. A/P S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	42.400
	=	0.11111E-08
INSTALLATION MONTH	=	5.0000
INSTALLATION YEAR	=	72.000
TOTAL NUMBER OF COMP. STAGES	=	9.0000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

ENGINE IDENTIFICATION YAG9A

ENGINE NUMBER =

14

A/B THRUST TO NON A/B THRUST RATIO = 1.0000

BYPASS RATIO + 1 = 7.2500

THRUST/WEIGHT = 5.9735

THRUST PER SQUARE INCH = 4.6326



ENGINE IDENTIFICATION EC137D

ENGINE NUMBER = 15

BYPASS RATIO	=	1.2700
OVERALL COMPRESSOR PRESS. RATIO	=	13.560
CUTLER COMPRESSOR PRESS. RATIO	=	4.2700
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	8.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	3.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.7400
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	126.43
WEIGHT IN POUNDS	=	4260.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	16400.
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.51500
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	465.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	53.140
	=	0.11111E-08
INSTALLATION MONTH	=	4.0000
INSTALLATION YEAR	=	62.000
TOTAL NUMBER OF COMP. STAGES	=	15.000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

# ENGINE IDENTIFICATION EC1570

ENGINE NUMBER =

15

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	2.3700
THRUST/WEIGHT	=	3.8490
THRUST PER SQUARE INCH	=	7.3945

# ENGINE IDENTIFICATION PAGE 10

ENGINE IDENTIFICATION 16

BYPASS RATIO	=	2.6700
LOW PRESS. COMPRESSOR PRESS. RATIO	=	15.0000
HIGH PRESS. COMPRESSOR PRESS. RATIO	=	2.4000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	5.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	1.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	3.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.5400
TURBINE MAX. INLET TEMP. DEGREES F	=	1850.0
NOMINAL ENGINE LENGTH, INCHES	=	49.730
WEIGHT IN POUNDS	=	710.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	3500.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.49000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	115.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	32.750
	=	0.111111E-08
INSTALLATION MONTH	=	3.0000
INSTALLATION YEAR	=	71.000
TOTAL NUMBER OF COMP. STAGES	=	6.0000
TOTAL NUMBER OF TURBINE STAGES	=	4.0000

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# ENGINE IDENTIFICATION TABLE

ENGINE NUMBER = 16

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	3.6700
THRUST/WEIGHT	=	4.9296
THRUST PLP SQUARE INCH	=	4.1548

# ENGINE IDENTIFICATION

ENGINE NO

27

BYPASS RATIO	=	1.2000
OVERALL COMPRESSOR PRESS. RATIO	=	8.2500
OUTER COMPRESSOR PRESS. RATIO	=	2.6000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	5.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	1.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	2.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.7000
TURBINE MAX. INLET TEMP. DEGREES F	=	1750.0
NOMINAL ENGINE LENGTH, INCHES	=	30.980
WEIGHT IN POUNDS	=	110.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	476.00
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.64000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	11.140
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	12.000
	=	0.11111E-00
INSTALLATION MONTH	=	7.0000
INSTALLATION YEAR	=	70.000
TOTAL NUMBER OF COMP. STAGES	=	6.0000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

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# ENGINE IDENTIFICATION

ENGINE DATA 17

A/I THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	2.2000
THRUST/WEIGHT	=	4.3273
THRUST PER SQUARE INCH	=	4.2088

# ENGINE IDENTIFICATION PROC

ENGINE NUMBER = 18

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	4.5500
CUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS.COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS.COMPRESSOR	=	1.0000
NO. OF STAGES, LOW PRESS.TURBINE	=	0.0000
NO. OF STAGES, HIGHPRESS.TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH , INCHES	=	140.92
WEIGHT IN POUNDS	=	1820.0
S.L. STATIC MIL. POWER(30 MIN. MAX.)	=	4000.0
S.L. S F C MIL. POWER(30 MIN. MAX.)	=	1.1400
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	86.200
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	47.000
	=	0.11111E-08
INSTALLATION MONTH	=	7.0000
INSTALLATION YEAR	=	49.000
TOTAL NUMBER OF COMP. STAGES	=	1.0000
TOTAL NUMBER OF TURBINE STAGES	=	1.0000

# ENGINE IDENTIFICATION PROC

ENGINE NO. - 18

A/P THRUST TO NON A/P THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.5275
THRUST PER SQUARE INCH	=	2.6514



# ENGINE IDENTIFICATION F890

ENGINE MODEL = 19

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	5.2000
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	11.000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	199.50
WEIGHT IN POUNDS	=	2850.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	5600.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	1.1000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	89.100
S.L. STATIC MAX. A/B THRUST	=	7400.0
S.L. STATIC MAX. A/B S.F.C.	=	2.2500
NOMINAL ENGINE DIAMETER, INCHES	=	43.000
	=	0.11111E-09
INSTALLATION MONTH	=	3.0000
INSTALLATION YEAR	=	53.000
TOTAL NUMBER OF COMP. STAGES	=	11.000
TOTAL NUMBER OF TURBINE STAGES	=	1.0000

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# ENGINE IDENTIFICATION F09D

ENGINE TYPE - 19

A/B THRUST TO NON A/B THRUST RATIO	=	1.3214
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	1.9646
THRUST FLP SQUARE INCH	=	2.8562

# ENGINE IDENTIFICATION PAGE

ENGINE MODEL = 20

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	5.2000
LOW COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	12.000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1612.0
NOMINAL ENGINE LENGTH, INCHES	=	226.50
WEIGHT IN POUNDS	=	3500.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	5425.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	1.1500
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	102.00
S.L. STATIC MAX. A/B THRUST	=	7500.0
S.L. STATIC MAX. A/B S.F.C.	=	2.3000
NOMINAL ENGINE DIAMETER, INCHES	=	39.000
	=	0.11111E-06
INSTALLATION MONTH	=	3.0000
INSTALLATION YEAR	=	54.000
TOTAL NUMBER OF COMP. STAGES	=	12.000
TOTAL NUMBER OF TURBINE STAGES	=	1.0000

# ENGINE IDENTIFICATION PAGE

ENGINE TYPE

20

A/B THRUST TO NON A/B THRUST RATIO	=	1.3825
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	1.5500
THRUST PER SQUARE INCH	=	4.2410

# ENGINE IDENTIFICATION PAGE

ENGINE NO. = 24

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	5.2000
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	12.000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	148.00
WEIGHT IN POUNDS	=	2607.0
S.L. STATIC MIL. POWER(30 MIN. MAX.)	=	5970.0
S.L. S.F.C. MIL. POWER(30 MIN. MAX.)	=	1.0600
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	103.50
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	29.500
	=	0.1111E-08
INSTALLATION MONTH	=	10.000
INSTALLATION YEAR	=	51.000
TOTAL NUMBER OF COMP. STAGES	=	12.000
TOTAL NUMBER OF TURBINE STAGES	=	1.0000

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# ENGINE IDENTIFICATION F36F

ENGINE NUMBER = 24

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.2500
THRUST PER SQUARE INCH	=	4.8718

BYPASS RATIO	=	0.00000
OVERALL COMPRESSOR PRESS. RATIO	=	12.000
COMP. COMPRESSOR PRESS. RATIO	=	2.2000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	5.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	7.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	1.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1900.0
NOMINAL ENGINE LENGTH, INCHES	=	149.50
WEIGHT IN POUNDS	=	2145.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	3450.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.2300
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	122.00
S.L. STATIC MAX. A/R THRUST	=	-1.0000
S.L. STATIC MAX. A/R S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	21.500
	=	0.1111E-03
INSTALLATION MONTH	=	10.000
INSTALLATION YEAR	=	59.000
TOTAL NUMBER OF COMP. STAGES	=	12.000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

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# ENGINE IDENTIFICATION PRODUCT

ENGINE NUMBER = 22

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	1.6084
THRUST PER SQUARE INCH	=	4.4270



# ENGINE IDENTIFICATION TJ9A

ENGINE NO. = 23

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	7.0000
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	9.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	79.500
WEIGHT IN POUNDS	=	460.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	2000.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.9600
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	50.000
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	23.400
	=	0.11111E-03
INSTALLATION MONTH	=	10.000
INSTALLATION YEAR	=	60.000
TOTAL NUMBER OF COMP. STAGES	=	9.0000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

# ENGINE IDENTIFICATION T39A

ENGINE NUMBER =

29

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	6.5217
THRUST PER SQUARE INCH	=	6.9759

# ENGINE IDENTIFICATION P57A

ENGINE NUMBER = 24

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	6.8000
CUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	13.000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1570.0
NOMINAL ENGINE LENGTH, INCHES	=	126.30
WEIGHT IN POUNDS	=	2814.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	7220.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.92000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	117.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	27.700
	=	0.11111E-03
INSTALLATION MONTH	=	10.000
INSTALLATION YEAR	=	53.000
TOTAL NUMBER OF COMP. STAGES	=	13.000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

ENGINE IDENTIFICATION B57A

ENGINE NUMBER = 24

A/B THRUST TO NON A/B THRUST RATIO = 1.0000

BYPASS RATIO + 1 = 1.0000

THRUST/WEIGHT = 2.5657

THRUST PER SQUARE INCH = 6.4679

# ENGINE IDENTIFICATION PAGE

ENGINE IDENTIFICATION 25

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.2716
THRUST PER SQUARE INCH	=	7.9157

# ENGINE IDENTIFICATION PAGE

ENGINE NAME = 26

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	7.0000
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	10.000
NO. OF STAGES, LOW PRESS. TURBINE	=	0.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	2.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	147.20
WEIGHT IN POUNDS	=	3825.0
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	8920.0
S.L. SFC MIL. POWER (30 MIN. MAX.)	=	0.91700
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	142.00
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	36.800
	=	0.11111E-03
INSTALLATION MONTH	=	10.000
INSTALLATION YEAR	=	54.000
TOTAL NUMBER OF COMP. STAGES	=	10.000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

# ENGINE IDENTIFICATION FROM

ENGINE NUMBER 26

A/P THRUST TO NON A/P THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	2.3320
THRUST PER SQUARE INCH	=	8.2865

# ENGINE IDENTIFICATION

ENGINE IDENTIFICATION

21

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	7.0000
ENTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	9.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	1.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1600.0
NOMINAL ENGINE LENGTH, INCHES	=	78.500
WEIGHT IN POUNDS	=	486.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	2900.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.96000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	50.000
S.L. STATIC MAX. A/R THRUST	=	-1.0000
S.L. STATIC MAX. A/R S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	20.400
	=	0.111115-00
INSTALLATION MONTH	=	2.0000
INSTALLATION YEAR	=	62.000
TOTAL NUMBER OF COMP. STAGES	=	9.0000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000



# ENGINE IDENTIFICATION

ENGINE NO. = 27

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	5.9671
THRUST PER SQUARE INCH	=	6.7434

# ENGINE IDENTIFICATION

ENGINE IDENTIFICATION = 28

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	7.0000
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	8.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	1.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1740.0
NOMINAL ENGINE LENGTH, INCHES	=	41.000
WEIGHT IN POUNDS	=	387.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	2950.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	0.99000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	43.800
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/P S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	20.000
	=	0.11111E-06
INSTALLATION MONTH	=	1.0000
INSTALLATION YEAR	=	67.000
TOTAL NUMBER OF COMP. STAGES	=	8.0000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

# ENGINE IDENTIFICATION

ENGINE NUMBER = 28

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	7.6227
THRUST PER SQUARE INCH	=	9.3901

# ENGINE IDENTIFICATION

ENGINE NUMBER = 29

BYPASS RATIO	=	0.0000
OVERALL COMPRESSOR PRESS. RATIO	=	7.0000
OUTER COMPRESSOR PRESS. RATIO	=	1.0000
NO. OF STAGES, LOW PRESS. COMPRESSOR	=	0.0000
NO. OF STAGES, HIGH PRESS. COMPRESSOR	=	3.0000
NO. OF STAGES, LOW PRESS. TURBINE	=	1.0000
NO. OF STAGES, HIGH PRESS. TURBINE	=	1.0000
FAN PRESSURE RATIO	=	1.0000
TURBINE MAX. INLET TEMP. DEGREES F	=	1750.0
NOMINAL ENGINE LENGTH, INCHES	=	48.210
WEIGHT IN POUNDS	=	430.00
S.L. STATIC MIL. POWER (30 MIN. MAX.)	=	2700.0
S.L. S.F.C. MIL. POWER (30 MIN. MAX.)	=	1.1000
ENGINE MASS FLOW S.L. STATIC, LBS/SEC	=	44.900
S.L. STATIC MAX. A/B THRUST	=	-1.0000
S.L. STATIC MAX. A/B S.F.C.	=	-1.0000
NOMINAL ENGINE DIAMETER, INCHES	=	24.600
	=	0.1111E-06
INSTALLATION MONTH	=	11.000
INSTALLATION YEAR	=	67.000
TOTAL NUMBER OF COMP. STAGES	=	3.0000
TOTAL NUMBER OF TURBINE STAGES	=	2.0000

# ENGINE IDENTIFICATION

ENGINE NO. = 29

A/B THRUST TO NON A/B THRUST RATIO	=	1.0000
BYPASS RATIO + 1	=	1.0000
THRUST/WEIGHT	=	6.2791
THRUST PER SQUARE INCH	=	5.6807